

What Is Claimed Is:

1. An isolated nucleic acid molecule comprising a polynucleotide having a nucleotide sequence at least 95% identical to a sequence selected from the group consisting of:

(a) a nucleotide sequence encoding the FcR-V polypeptide having the amino acid sequence at positions -16 to 498 of SEQ ID NO:10 or the complete amino acid sequence encoded by the FcR-V cDNA clone contained in ATCC Deposit No. 209100;

(b) a nucleotide sequence encoding the FcR-V polypeptide having the amino acid sequence at positions -15 to 498 of SEQ ID NO:10 or the complete amino acid sequence excepting the N-terminal methionine encoded by the FcR-V cDNA clone contained in ATCC Deposit No. 209100;

(c) a nucleotide sequence encoding the mature form of the FcR-V polypeptide having the amino acid sequence at positions 1 to 498 in SEQ ID NO:10, or as encoded by the FcR-V cDNA clone contained in ATCC Deposit No. 209100;

(d) a nucleotide sequence encoding a polypeptide comprising the extracellular domain of the FcR-V polypeptide having the amino acid sequence at positions 1 to 343 in SEQ ID NO:10 or as encoded by the FcR-V cDNA clone contained in ATCC Deposit No. 209100;

(e) a nucleotide sequence encoding a polypeptide comprising the transmembrane domain of the FcR-V polypeptide having the amino acid sequence at positions 344 to 364 in SEQ ID NO:10 or as encoded by the FcR-V cDNA clone contained in ATCC Deposit No. 209100;

(f) a nucleotide sequence encoding a polypeptide comprising the intracellular domain of the FcR-V polypeptide having the amino acid sequence at positions 365 to 498 in SEQ ID NO:10 or as encoded by the FcR-V cDNA clone contained in ATCC Deposit No. 209100;

(g) a nucleotide sequence encoding a soluble FcR-V polypeptide having the extracellular and intracellular domains but lacking the transmembrane domain; and

(h) a nucleotide sequence complementary to any of the nucleotide sequences in (a) through (g) above.

2. The nucleic acid molecule of claim 1 wherein said polynucleotide comprises the complete nucleotide sequence in Figure 13A-13B (SEQ ID NO:9).

3. The nucleic acid molecule of claim 1 wherein said polynucleotide comprises the complete nucleotide sequence in Figure 13A-13B (SEQ ID NO:9) encoding the FcR-V polypeptide having the amino acid sequence in positions -16 to 498 of SEQ ID NO:10

4. The nucleic acid molecule of claim 1 wherein said polynucleotide comprises the complete nucleotide sequence in Figure 13A-13B (SEQ ID NO:9) encoding the FcR-V polypeptide having the amino acid sequence in positions -15 to 498 of SEQ ID NO:10

5. The nucleic acid molecule of claim 1 wherein said polynucleotide comprises the complete nucleotide sequence in Figure 13A-13B (SEQ ID NO:9) encoding the mature FcR-V polypeptide having the amino acid sequence from about 1 to about 498 in SEQ ID NO:10.

6. An isolated nucleic acid molecule comprising a polynucleotide having a nucleotide sequence at least 95% identical to a sequence selected from the group consisting of:

(a) a nucleotide sequence encoding a polypeptide comprising the amino acid sequence of residues n-498 of SEQ ID NO:10, where n is an integer in the range of -16 to 26;

(b) a nucleotide sequence encoding a polypeptide comprising the amino acid sequence of residues -16 to m of SEQ ID NO:10, where m is an integer in the range of 488 to 498;

(c) a nucleotide sequence encoding a polypeptide having the amino acid sequence consisting of residues n-m of SEQ ID NO:10, where n and m are integers as defined respectively in (a) and (b) above;

(d) a nucleotide sequence encoding a polypeptide consisting of a portion of the complete FcR-V amino acid sequence encoded by the FcR-V cDNA clone contained in ATCC Deposit No. 209100 wherein said portion excludes from 1 to about 25 amino acids from the amino terminus of said complete amino acid sequence encoded by the FcR-V cDNA clone contained in ATCC Deposit No. 209100;

(e) a nucleotide sequence encoding a polypeptide consisting of a portion of the complete FcR-V amino acid sequence encoded by the FcR-V cDNA clone contained in ATCC Deposit No. 209100 wherein said portion excludes from 1 to about 10 amino acids

from the carboxy terminus of said complete amino acid sequence encoded by the FcR-V cDNA clone contained in ATCC Deposit No. 209100; and

(f) a nucleotide sequence encoding a polypeptide consisting of a portion of the complete FcR-V amino acid sequence encoded by the FcR-V cDNA clone contained in ATCC Deposit No. 209100 wherein said portion include a combination of any of the amino terminal and carboxy terminal deletions in (d) and (e), above.

7. The nucleic acid molecule of claim 1 wherein said polynucleotide has the complete nucleotide sequence of the complete nucleotide sequence of an FcR-V cDNA clone contained in ATCC Deposit No. 209100.

8. The nucleic acid molecule of claim 1 wherein said polynucleotide comprises the complete amino acid sequence encoded by the FcR-V cDNA clone contained in ATCC Deposit No. 209100.

9. The nucleic acid molecule of claim 1 wherein said polynucleotide comprises the nucleotide sequence encoding the FcR-V polypeptide having the complete amino acid sequence excepting the N-terminal methionine encoded the FcR-V cDNA clone contained in ATCC Deposit No. 209100.

10. The nucleic acid molecule of claim 1 wherein said polynucleotide comprises the nucleotide sequence encoding a mature FcR-V polypeptide having the amino acid sequence encoded by the FcR-V cDNA clone contained in ATCC Deposit No. 209100.

11. An isolated nucleic acid molecule comprising a polynucleotide which hybridizes under stringent hybridization conditions to a polynucleotide having a nucleotide sequence identical to a nucleotide sequence in (a), (b), (c), (d), (e), (f), (g), or (h) of claim 1 wherein said polynucleotide which hybridizes does not hybridize under stringent hybridization conditions to a polynucleotide having a nucleotide sequence consisting of only A residues or of only T residues.

12. An isolated nucleic acid molecule comprising a polynucleotide which encodes the amino acid sequence of an epitope-bearing portion of an FcR-V polypeptide having an amino acid sequence in (a) through (g) of claim 1.

13. The isolated nucleic acid molecule of claim 12, which encodes an epitope-bearing portion of a FcR-V polypeptide wherein the amino acid sequence of said portion is selected from the group of sequences in SEQ ID NO:10 consisting of: about Cys-140 to about Ser-160, from about Val-169 to about Val-189, from about Val-204 to about Pro-216, from about Val-238 to about Gln-258, from about Ser-270 to about Asp-297, from about Phe-304 to about Val-312, from about Pro-320 to about Val-369, from about Gly-404 to about Asn-416, and from about Gln-439 to about Ile-483.

14. A method for making a recombinant vector comprising inserting an isolated nucleic acid molecule of claim 1 into a vector.

15. A recombinant vector produced by the method of claim 14.

16. A method of making a recombinant host cell comprising introducing the recombinant vector of claim 15 into a host cell.

17. A recombinant host cell produced by the method of claim 16.

18. A recombinant method for producing an FcR-V polypeptide, comprising culturing the recombinant host cell of claim 17 under conditions such that said polypeptide is expressed and recovering said polypeptide.

19. An isolated FcR-V polypeptide comprising an amino acid sequence at least 95% identical to a sequence selected from the group consisting of:

(a) the amino acid sequence of the complete FcR-V polypeptide having the amino acid sequence positions -16 to 498 of SEQ ID NO:10 or the complete FcR-V amino acid sequence encoded by the FcR-V cDNA clone contained in ATCC Deposit No. 209100;

(b) the amino acid sequence of the complete FcR-V polypeptide having the amino acid sequence positions -15 to 498 of SEQ ID NO:10 or the complete FcR-V amino acid sequence excepting the N-terminal methionine encoded by the FcR-V cDNA clone contained in ATCC Deposit No. 209100;

(c) the amino acid sequence of the mature FcR-V polypeptide having the amino acid sequence at positions 1 to 498 in SEQ ID NO:10, or as encoded by the FcR-V cDNA clone contained in ATCC Deposit No. 209100;

(d) the amino acid sequence of the extracellular domain of the FcR-V polypeptide having the amino acid sequence at positions 1-343 in SEQ ID NO:10, or as encoded by the FcR-V cDNA clone contained in ATCC Deposit No. 209100;

(e) the amino acid sequence of the transmembrane domain of the FcR-V polypeptide having the amino acid sequence at positions 344-364 in SEQ ID NO:10, or as encoded by the FcR-V cDNA clone contained in ATCC Deposit No. 209100;

(f) the amino acid sequence of the intracellular domain of the FcR-V polypeptide having the amino acid sequence at positions 365-498 in SEQ ID NO:10, or as encoded by the FcR-V cDNA clone contained in ATCC Deposit No. 209100;

(g) the amino acid sequence of a soluble FcR-V polypeptide comprising the extracellular and intracellular domains, but lacking the transmembrane domain.

20. An isolated polypeptide comprising an epitope-bearing portion of the FcR-V protein, wherein said portion is selected from the group consisting of: a polypeptide comprising amino acid residues from about Cys-140 to about Ser-160 of SEQ ID NO:10; a polypeptide comprising amino acid residues from about Val-169 to about Val-189 of SEQ ID NO:10; a polypeptide comprising amino acid residues from about Val-204 to about Pro-216 of SEQ ID NO:10; a polypeptide comprising amino acid residues from about Val-238 to about Gln-258 of SEQ ID NO:10; a polypeptide comprising amino acid residues from about Ser-270 to about Asp-297 of SEQ ID NO:10; a polypeptide comprising amino acid residues from about Phe-304 to about Val-312 of SEQ ID NO:10; a polypeptide comprising amino acid residues from about Pro-320 to about Val-369, of SEQ ID NO:10; a polypeptide comprising amino acid residues from about Gly-404 to about Asn-416 of SEQ ID NO:10; and a polypeptide comprising amino acid residues from about Gln-439 to about Ile-483 of SEQ ID NO:10.

21. An isolated antibody that binds specifically to an FcR-V polypeptide of claim 19.

22. An isolated nucleic acid molecule comprising a polynucleotide having a sequence at least 95% identical to a sequence selected from the group consisting of:

- (a) the nucleotide sequence of SEQ ID NO:24;
- (b) the nucleotide sequence of a portion of the sequence shown in Figure 13A-13B (SEQ ID NO:9) wherein said portion comprises at least 50 contiguous nucleotides from nucleotide 1 to residue 650;
- (c) the nucleotide sequence of a portion of the sequence shown in Figure 13A-13B (SEQ ID NO:9) wherein said portion consists of nucleotides 100-1650, 250-1650, 500-1650, 750-1650, 1000-1650, 1250-1650, 250-1000, 500-1000, 750-1000, 100-750, 250-750, 500-750, 100-500, 250-500, and 1-250; and
- (d) a nucleotide sequence complementary to any of the nucleotide sequences in (a) through (c) above.